AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application including any Article 19 or 34 Amendments:

LISTING OF CLAIMS:

Claims 1-9 Cancelled

10. A process for extruding tubular products, particularly blown plastic foil hoses, comprising the steps of feeding a pressurized material, particularly thermoplastic material into an inlet of an extruder nozzle, and forcing this material flow through a duct formed between relatively rotating outer and inner nozzle components, then shaping the tubular product by pressing the material flow through an annular drawing aperture at an outlet end of said duct of the extruder nozzle, characterized in that the material flow entering the extruder nozzle (1) through the inlet (6) in a first radial main direction of progress, and it is distributed along the duct by being first led directly into an annular expansion chamber (7) for distribution and expansion of the material flow, connected directly to the radial inlet (6) and during this step the first radial main direction of progress of the material flow is maintained; the cross-section of said annular expansion chamber (7) is selected at least one order of magnitude greater than that of the radial inlet (6); and when the annular expansion chamber (7) has been completely filled up by the material flow whose pressure has become higher than a flow resistance of an homogenizing ring channel (13) having a cross-section narrowed in a predetermined manner to and connected directly to the annular expansion chamber (7), only then the material flow is moved in a second main direction of progress, which is cross direction, preferably axially to the entering first radial main direction thereof, from the annular expansion chamber (7) into said homogenizing ring channel (13), wherein the

material flow is homogenized by the relative rotation of substantially flat surfaces formed at least partly by the external nozzle component (2) being fixed and the internal nozzle core (3) being rotated, and the homogenizing ring channel (13) and/or the annular expansion chamber (7) is/are delimited at least partly by said relatively rotating surfaces, and thereby the material flow is led in the second main direction of progress to said drawing aperture (14) by way of a helical forced movement, wherein the material flow between the radial inlet (6) and the drawing aperture (14) has a single change in its main direction of progress only.

11. A process for extruding tubular products, particularly blown plastic foil hoses, comprising the steps of feeding a pressurized material, particularly thermoplastic material into an inlet of an extruder nozzle, and forcing this material flow through a duct formed between relatively rotating outer and inner nozzle components, then shaping the tubular product by pressing the material flow through an annular drawing aperture at an outlet end of said duct of the extruder nozzle, characterized by maintaining a predetermined temperature of the material flow in the extruder nozzle (1) substantially by internal heat generated in the material itself as a result of kneading work performed by a helical forced motion of the material flow due to relative rotation of substantially flat surfaces formed at least partly by the external nozzle component (2) being fixed and the internal nozzle core (3) being rotated, and a homogenizing ring channel (13) and/or an annular expansion chamber (7) is/are provided with and delimited by said relatively rotating surfaces; and the material flow entering the extruder nozzle (1) through the inlet (6) in a first radial main direction of progress, and it is distributed along the duct by being first led directly into the annular expansion chamber (7) for distribution and expansion of the material flow, connected directly to the radial inlet (6) and

during this step the first radial main direction of progress of the material flow is maintained; and when the annular expansion chamber (7) has been completely filled up by the material flow whose pressure has become higher than a flow resistance of the homogenizing ring channel (13) having a cross-section narrowed in a predetermined manner to and connected directly to the annular expansion chamber (7), only then the material flow is moved in a second main direction of progress, which is a cross direction, preferably axially to the entering first radial main direction thereof, from the annular expansion chamber (7) into said homogenizing ring channel (13), and then the material flow is led in the second main direction of progress to said drawing aperture (14) by way of a helical forced movement, wherein the material flow between the radial inlet (6) and the drawing aperture (14) has a single change in its main direction of progress only.

12. An extruder nozzle for producing tubular products, particularly blown plastic foil hoses from pressurized materials, mainly thermoplastic materials, comprising an external nozzle component and an internal nozzle core embedded therein; and a material distribution duct formed between the external nozzle component and the internal nozzle core; the external nozzle component having an inlet for receiving the pressurized material, which is connected to a drawing aperture through the duct, characterized in that the external nozzle component (2) of the extruder nozzle (1) is fixed and the internal nozzle core (3) is rotatable embedded in the fixed external nozzle component (2) and provided with a rotary drive; said material distribution duct comprises an annular expansion chamber (7) connected directly to the inlet (6) which is formed in radial direction in the fixed external nozzle component (2); the cross-section of the annular expansion chamber (7) is at least one order of magnitude greater than that of the radial inlet (6); said material distribution duct comprises a homogenizing annular ring channel (13) connected

axially with its one end directly to the annular expansion chamber (7) and its cross-section is narrowed to a predetermined proportion compared to the annular expansion chamber (7), and its other end is connected to the drawing aperture (14).

13. An extruder nozzle for producing tubular products, particularly blown plastic foil hoses from pressurized material, comprising an external nozzle component and an internal nozzle core embedded therein, and a material distribution duct arranged between the external nozzle component and the internal nozzle core; the external nozzle component having an inlet for receiving at least one pressurized material, which is connected to a drawing aperture through said duct, characterized in that the extruder nozzle (1) is suitable for producing multi-layer tubular products, mainly multi-layer foil hoses (T'), wherein the material distribution duct comprises a first annular expansion chamber (7) connected to the first inlet (6) formed in radial direction for receiving a first pressurized material flow; the cross-section of said first annular expansion chamber (7) is greater, preferably at least one order of magnitude greater than that of the first radial inlet (6); the material distribution duct comprises a first homogenizing ring channel (13) connected directly and co-axially to the first annular expansion chamber (7), and a cross-section of the first homogenizing ring channel (13) is narrowed to a predetermined proportion compared to said first annular expansion chamber (7), and is at least partly delimited by a skirt surface (28) of at least one delimiting sleeve (27) embedded freely rotatable in the external nozzle component (2); said at least one delimiting sleeve (27) has another skirt surface (31) delimiting at least partly a second homogenizing ring channel (33), one end of which is connected directly to a second radial inlet (34) receiving a second material flow through a second annular expansion chamber (32), its cross-section is greater, preferably at least one order of

magnitude greater than the cross-section of the second homogenizing ring channel (33) or the second radial inlet (34); the other end of the first and second homogenizing ring channels (13, 33) are preferably connected to a common joining chamber (35) which is connected to the drawing aperture (14); wherein the external nozzle component (2), the internal nozzle core (3), and the at least one delimiting sleeve (27) are arranged in a relatively rotatable manner, and the external nozzle part (2) and/or the internal nozzle core (3) and/or said at least one delimiting sleeve (27) can be connected to a rotary drive.

14. An extruder nozzle according to Claim 12, characterized in that the annular expansion chamber (7, 32), the homogenizing ring channel (13, 33), the drawing aperture (14) and in a given case the joining chamber (35) are coaxially formed and arranged to a longitudinal axis (4) of the extruder nozzle (1).

15. An extruder nozzle according to Claim 12, characterized in that only the lower end of the rotatable nozzle core (3) is embedded in bearings (11, 12) in the fixed external nozzle component (2), allowing a limited radial displacement of an upper end of the nozzle core (3), thereby the upper end of the nozzle core (3) adjacent to the homogenizing ring channel (13; 33) is arranged in a bearing-free manner, so as to be self-centering relative to the external nozzle component (2).

16. An extruder nozzle according to Claim 12, characterized in that the rotatable nozzle core (3) is axially divided, one of its parts (3A) provided with an opening delimiting the drawing aperture (14) can be changed for different products.

17. An extruder nozzle according to Claim 12, characterized in that the fixed external nozzle component (2) is axially divided into parts (2A, 2B, 2C, 2D), wherein there is an axial distance (24) and at least one connecting ring (25) between the adjacent

parts (2B, 2C) for reducing thermal load of the parts (2C, 2D) comprising the bearings (11, 12) of said rotating nozzle core (3).

18. An extruder nozzle according to Claim 12, characterized in that it is provided at least one gap-controlling means, preferably insert (38, 39), having at least one groove (38B; 39B) formed as to control in a predetermined manner the size and shape of the material flow cross-section in the homogenizing ring channel (13; 33).

19. An extruder nozzle according to Claim 13, characterized in that the annular expansion chamber (7, 32), the homogenizing ring channel (13, 33), the drawing aperture (14) and in a given case the joining chamber (35) are coaxially formed and arranged to a longitudinal axis (4) of the extruder nozzle (1).

20. An extruder nozzle according to Claim 13, characterized in that only the lower end of the rotatable nozzle core (3) is embedded in bearings (11, 12) in the fixed external nozzle component (2), allowing a limited radial displacement of an upper end of the nozzle core (3), thereby the upper end of the nozzle core (3) adjacent to the homogenizing ring channel (13; 33) is arranged in a bearing-free manner, so as to be self-centering relative to the external nozzle component (2).

21. An extruder nozzle according to Claim 14, characterized in that only the lower end of the rotatable nozzle core (3) is embedded in bearings (11, 12) in the fixed external nozzle component (2), allowing a limited radial displacement of an upper end of the nozzle core (3), thereby the upper end of the nozzle core (3) adjacent to the homogenizing ring channel (13; 33) is arranged in a bearing-free manner, so as to be self-centering relative to the external nozzle component (2).

22. An extruder nozzle according to Claim 13, characterized in that the rotatable nozzle core (3) is axially divided, one of its parts (3A) provided with an opening delimiting the drawing aperture (14) can be changed for different products.

23. An extruder nozzle according to Claim 14, characterized in that the rotatable nozzle core (3) is axially divided, one of its parts (3A) provided with an opening delimiting the drawing aperture (14) can be changed for different products.

24. An extruder nozzle according to Claim 15, characterized in that the rotatable nozzle core (3) is axially divided, one of its parts (3A) provided with an opening delimiting the drawing aperture (14) can be changed for different products.

25. An extruder nozzle according to Claim 13, characterized in that the fixed external nozzle component (2) is axially divided into parts (2A, 2B, 2C, 2D), wherein there is an axial distance (24) and at least one connecting ring (25) between the adjacent parts (2B, 2C) for reducing thermal load of the parts (2C, 2D) comprising the bearings (11, 12) of said rotating nozzle core (3).

26. An extruder nozzle according to Claim 14, characterized in that the fixed external nozzle component (2) is axially divided into parts (2A, 2B, 2C, 2D), wherein there is an axial distance (24) and at least one connecting ring (25) between the adjacent parts (2B, 2C) for reducing thermal load of the parts (2C, 2D) comprising the bearings (11, 12) of said rotating nozzle core (3).

27. An extruder nozzle according to Claim 15, characterized in that the fixed external nozzle component (2) is axially divided into parts (2A, 2B, 2C, 2D), wherein there is an axial distance (24) and at least one connecting ring (25) between the adjacent parts (2B, 2C) for reducing thermal load of the parts (2C, 2D)

comprising the bearings (11, 12) of said rotating nozzle core (3).

28. An extruder nozzle according to Claim 16, characterized in that the fixed external nozzle component (2) is axially divided into parts (2A, 2B, 2C, 2D), wherein there is an axial distance (24) and at least one connecting ring (25) between the adjacent parts (2B, 2C) for reducing thermal load of the parts (2C, 2D) comprising the bearings (11, 12) of said rotating nozzle core (3).

29. An extruder nozzle according to Claim 13, characterized in that it is provided at least one gap-controlling means, preferably insert (38, 39), having at least one groove (38B; 39B) formed as to control in a predetermined manner the size and shape of the material flow cross-section in the homogenizing ring channel (13; 33).